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REMARKS

Claims 19 And 22 Have Been Amended To Provide Antecedent Basis

Paragraphs 1 and 2 of the Official Action reject Claims 19 – 24 because Claims 19 and 22 allegedly lack antecedent basis for the recited terminating surfaces. Claims 19 and 22 have been amended to track the claim language of Claim 17 with respect to the terminating surfaces. Applicant respectfully submits that the Office's § 112 rejection should be removed.

The Cited References Fail To Disclose Or Suggest The Recited Bushing

Paragraphs 3 – 6 of the Official Action reject all of the claims under 35 U.S.C. § 103 as obvious in light of Japanese Patent No. 5-86767 (JP '767), or U.S. Patent 4,697,306 to Rhodes (Rhodes) when either is combined with U.S. Patent 3,921,225 to Suska (Suska). The crux of the Examiner's rejection is that the figures of JP '767 and Rhodes show gravity hinges having two knuckles with opposing oblique surfaces. The Office asserts that JP '767 and Rhodes discuss all of the elements of the claimed invention with the exception of a bushing. Suska is cited as providing a bushing.

The combinations asserted by the Office fail to render the claimed invention obvious. The Office rejects the claims by simply stating that it would have been obvious for one to combine Suska's bushing with the JP '767 or Rhodes' hinge because those skilled in the art know that a bushing will decrease friction, wear and maintenance. The rejection raised by the Office is a conceptual rejection and fails to consider the engineering problems remedied by the claimed invention.

The Office's rejection is flawed because the Suska bushing is incompatible with the hinges shown in JP '767 and Rhodes. The Suska bushing is not oblique. Its top and

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bottom surfaces are perpendicular to its side surfaces. Therefore, the cited references fail as obviating references in several respects.


First, it is not possible to combine the Suska bushing with either the JP '767 or Rhodes hinge. If one were to use the Suska bushing in either hinge the bushing would physically separate the knuckles by providing a horizontal surface for knuckle rotation rather than an inclined surface. This would eliminate the gravity driven torque that closes the hinge thus destroying the utility of the respective gates.

Second, the Suska bushing predates both Rhodes and JP '767 by at least 15 years. Other bushings predate Suska. The absence of any bushing from Rhodes and JP '767 underscores the fact that the claimed invention was not obvious to one skilled in the art.

Finally, even combining the recited bushing with either JP '767 or Rhodes fails to achieve the claimed invention. The lower knuckle of the JP '767 hinge has a flat portion (12c) that is parallel to the button surface of the hinge. This flat portion creates a plateau upon which the upper knuckle may rest thus preventing rotation to a closed position. Likewise, the raised projections (14) and (15) in Rhodes Figure 2 and the pin (26) in Rhodes Figure 3 prevent the use of the invention's oblique bushing.

Although the cited references may possess superficial similarities with the claimed invention, there are significant engineering differences and incompatibilities between the references and the claimed invention. In short, the elegance inherent in Applicant's claimed invention as compared to the complicated devices in the references is direct and compelling evidence of non-obviousness. Applicant respectfully requests the withdrawal of the rejections and the immediate allowance of the claims.

Respectfully submitted,



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I hereby certify that this correspondence is being transmitted by facsimile to the
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7/31/02
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Marked-Up Claims

1. (Amended) A gravity hinge comprising:

an upper cylindrical knuckle having a first terminating surface and an opposing second terminating surface oblique to the axis of said upper knuckle;

a lower cylindrical knuckle having a first terminating surface oblique to the axis of said lower knuckle at the same angle as said second surface of said upper knuckle and an opposing second terminating surface;

a spindle received by at least one of said knuckles, said spindle establishing rotating communication between said upper and lower knuckles where said second terminating surface of said upper knuckle is opposed to said first terminating surface of said lower knuckle; and

[a] an oblique bushing surrounding said spindle and separating said upper and lower knuckles, said bushing having a lower coefficient of friction with respect to said respective oblique surfaces of said upper and lower knuckles than said respective surfaces have for each other.

17. (Amended) A gravity hinge comprising:

an upper cylindrical knuckle having a terminating surface that is oblique to the vertical axis of said upper knuckle;

a lower cylindrical knuckle having a terminating surface that is oblique to the vertical axis of said lower knuckle and at substantially the same angle as said upper knuckle terminating surface;

a spindle for rotatably engaging said upper knuckle with said lower knuckle such that said oblique terminating surfaces of each knuckle are proximate to each other; and

[a] an oblique self-lubricating friction reducer surrounding said spindle and physically separating said knuckles.

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19. (Amended) A gravity hinge according to claim 17 wherein said upper cylindrical knuckle is tubular and said spindle extends from said [first] terminating surface of said lower cylindrical knuckle and is received in said upper tubular knuckle.

22. (Amended) A gravity hinge according to claim 17 wherein said lower cylindrical knuckle is tubular and said spindle extends from said [second] terminating surface of said upper knuckle and is received in said lower tubular knuckle.